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			2612	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,048

Applicant(s)

YAMAGUCHI, YOSHIHIRO

Examiner

Nelson D. Hernandez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendments filed on October 26, 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-28 and 30-44 is/are rejected.
- 7) ☐ Claim(s) 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the amendments to the claims filed on October 26, 2005. Claims 1, 2, 6 and 9-15 have been amended. Claims 16-44 have been newly added.

Response to Arguments

2. Applicant's arguments filed on October 26, 2005 have been fully considered but they are not persuasive.

Applicant argues that Belucci fails to teach that the limitation "changes the size of the image so that the size of the person area is the predetermined size" and argues that "resizing the entire image to a particular size is not equivalent to resizing image so that the person area within the image is a predetermined size".

The Examiner respectfully disagrees. By teaching resizing the size of the image separated of said subject so as to fit the area required for the photo of the ID card (Col. 4, lines 8-19; col. 5, lines 15-49), Belucci discloses resizing the image so that the person are within the image is a predetermined size since by resizing the image, the whole image data is also being resized into a predetermined size relative to the size of the image, therefore the person area is also resized to a predetermined size.

3. Applicant's arguments with respect to claims 1, 9 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by Belucci, Patent 5,913,542 B1.**

Regarding claim 25, Belucci discloses a method for processing an image, comprising: determining a background area of an image (Belucci discloses that the background is normalize or deleted when processing the image, by teaching this, Belucci discloses determining the background area since it has to be detected prior to deletion; col. 4, lines 7-19 and col. 5, lines 15-36); determining a person area of the image as an area of the image other than the background area of the image (Belucci discloses presenting the image of the person only by deleting the background area, by doing this, Belucci discloses that the person area is other that the background area; col. 4, lines 8-19 and col. 5, lines 15-36); and sizing the image such that a size of person area of the image is a predetermined person area size (Belucci teaches resizing the size of the image separated of said subject so as to fit the area required for the photo of the ID card (Col. 4, lines 8-19; col. 5, lines 15-49), by doing so, Belucci discloses resizing the image so that the person are within the image is a predetermined size since by resizing the image, the whole image data is also being resized into a predetermined

size relative to the size of the image, therefore the person area is also resized to a predetermined size).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-6, 8, 9, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945 in view of Belucci, Patent 5,913,542 B1.**

Regarding claim 1, Nishikawa discloses an identification photo system (Fig. 2) that obtains image data for an identification photo of a person (Fig. 2: 22) from image data of the person, said identification photo system comprising an automatic correcting device (Fig. 2) that automatically corrects the image data of the person (Col. 3, line 66 – col. 4, line 13; col. 6, lines 40-56; col. 9, lines 42-65).

Nishikawa does not explicitly teach that the automatic correcting device detects a background area in said image data, compares the size of the person area in said image data with a predetermined size, and changes the size of the image so that the size of the person area is the predetermined size.

However, Belucci teaches a system for producing ID cards wherein the system separates the image area from the background area from the subject area (Belucci

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teaches normalizing or eliminating the background of the image to be captured (see col. 4, lines 8-19 and col. 5, lines 15-36), doing so inherently teaches detecting the background area, since the background has to be detected prior to normalizing or deleting) so as to compress the image data for the identification card (Col. 4, lines 8-19), as part of the compression algorithm, the background is changed to a predetermined color (normalized or eliminated), also teaches resizing the size of the image separated of said subject so as to fit the area required for the photo of the ID card (Col. 5, lines 15-49). By teaching resizing the image so as to fit the area required for the photo of the ID card, Belucci teaches resizing the image so that the person are within the image is a predetermined size since by resizing the image, the whole image data is also being resized into a predetermined size relative to the size of the image, therefore the person area is also resized to a predetermined size.

Therefore, taking the combined teaching of Nishikawa in view of Belucci as a whole, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the identification photo system by detecting a background area in the image data and abstracting a person area based on the background area and having means to separate a person area and a background area and a background color-changing means to change the color of the background to a predetermined color and by including means for changing the size of a photo to a predetermined size. The motivation to do so would have been to help the identification photo system to compress the image of the person only since the background is not that relevant and can be changed and to adjust the size of the image of the person so as to fit the area required for the photo as suggested by Belucci (Col. 4, lines 8-19).

Regarding claim 2, Nishikawa discloses that the automatic correcting device corrects at least one of density, color balance, luminance and saturation of an image of the person (Col. 5, lines 56-65; col. 6, lines 47-66).

Regarding claim 3, Nishikawa discloses that the automatic correcting device comprises: a skin pigmentation area abstracting device (detection point setting unit in fig. 2: 52) that abstracts a skin pigmentation area from the image; a skin pigmentation correction value calculating device (comparator in fig. 2: 58) that calculates skin pigmentation correction values according to colors of the skin pigmentation area abstracted by said skin pigmentation area abstracting device and a predetermined skin pigmentation correction target value (stored in standard color memory in fig. 2: 56); and a color correcting device (look-up table in fig. 2: 60) that corrects the colors of the skin pigmentation area according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device (the look-up table is used to correct the colors based on the result of the comparator) (Col. 3, line 66 – col. 4, line 13; col. 5, line 66 – col. 6, line 7).

Regarding claim 4, Nishikawa discloses the same in claim 3. Therefore, grounds for rejecting claim 3 apply here. Furthermore, Nishikawa teaches performing a complexion conversion the colors of the image stored in memory (Fig. 2: 30) according to a preferable complexion (Col. 5, line 66 – col. 6, line 7).

Regarding claim 5, the combined teaching of Nishikawa in view of Belucci teaches a system for producing ID cards wherein the system separates the image area from the background area so as to compress the image data for the identification card (Belucci, Col. 4, lines 8-19), as part of the compression algorithm, the background is

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changed to a predetermined color (normalized or eliminated), also teaches that a software automatically resize the images so as to fit the required area for the photo (Belucci, Col. 5, lines 15-49).

Regarding claim 6, the combined teaching of Nishikawa in view of Belucci teaches an abstracting device that abstracts a print area required for the identification photo from the image according to the size of the image by teaching the software automatically resize the images to a predetermined size so as to fit the area required area for the photo (See Belucci, col. 5, lines 15-49).

Regarding claim 8, Nishikawa discloses the identification photo system comprising a printer (Fig. 2: 34) that prints the identification photo from the image data for the identification photo (Col. 3, lines 43-51).

Regarding claim 9, the combined teaching of Nishikawa in view of Belucci teaches an apparatus performing the same as in claim 1 and 3. Therefore, grounds for rejecting claim 1 and 3 apply here.

Regarding claim 16, the combined teaching of Nishikawa in view of Belucci as applied to claim 1 teaches that the automatic correcting device is configured to determine the person area as being an area of the image data other than the background area (See Belucci, col. 4, lines 8-19 and col. 5, lines 15-36).

Regarding claim 19, the combined teaching of Nishikawa in view of Belucci as applied to claim 1 teaches that the step of abstracting the person area the image data comprises determining the person area as being an area of the image data other than the background area (Belucci teaches determining the person area by teaching

determining the background area to be removed; col. 4, lines 8-19 and col. 5, lines 15-36).

8. Claims 10-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945 in view of Belucci, Patent 5,913,542 B1 and further in view of Fujimoto, US Patent 6,035,074.

Regarding claim 10, Nishikawa discloses an image processing system (Fig. 2A) for generating identification image data from an original image data of a person (Fig. 2: 22), said identification photo system comprising an automatic correcting device (Fig. 2) that automatically corrects the image data of the person (Col. 3, line 66 – col. 4, line 13; col. 6, lines 40-56; col. 9, lines 42-65).

Nishikawa does not explicitly teach an abstracting device configured to determine a person area of the original image data based on a background area; an image size correcting device configured to change a size of the person area based on a predetermined image size; an image data generating device configured to generate the identification image data based on the changed sized person area such that the identification image data includes a cut guidance area within a print area, wherein the cut guidance area is smaller than the print area.

However, Belucci discloses an image processing system (Fig. 2A) for generating identification image data from an original image data of a person (See image of the person in fig. 2: 52), comprising: an abstracting device configured to determine a person area of the original image data based on a background area (Belucci teaches normalizing or eliminating the background of the image to be captured to obtain only the person area; see col. 4, lines 8-19 and col. 5, lines 15-36); an image size correcting

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device configured to change a size of the person area based on a predetermined image size (By teaching resizing the image so as to fit the area required for the photo of the ID card, Belucci teaches resizing the image so that the person are within the image is a predetermined size since by resizing the image, the whole image data is also being resized into a predetermined size relative to the size of the image, therefore the person area is also resized to a predetermined size); and an image data generating device (Fig. 2: 51) configured to generate the identification image data based on the changed sized person area (col. 4, lines 8-19 and col. 5, lines 15-36).

Therefore, taking the combined teaching of Nishikawa in view of Belucci as a whole, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the identification photo system by detecting a background area in the image data and abstracting a person area based on the background area and having means to separate a person area and a background area and a background color-changing means to change the color of the background to a predetermined color and by including means for changing the size of a photo to a predetermined size. The motivation to do so would have been to help the identification photo system to compress the image of the person only since the background is not that relevant and can be changed and to adjust the size of the image of the person so as to fit the area required for the photo as suggested by Belucci (Col. 4, lines 8-19).

The combined teaching of Nishikawa in view of Belucci fails to teach generating the identification image data based on the changed sized person area such that the identification image data includes a cut guidance area within a print area, wherein the cut guidance area is smaller than the print area.

However, in the same field of endeavor, Fujimoto discloses an image processing apparatus in communication with a camera or a scanner (Col. 2, lines 59-65; col. 6, lines 3-9; col. 7, lines 24-31), said camera comprising an external input controlling section (Fig. 3: 15) for the camera or scanner, wherein said image processing apparatus extract the face of a subject in the image using face recognition by comparing the colors in the whole input image (See figs. 6-10) with skin colors stored in a RAM (Fig. 3: 11) or ROM (Fig. 3: 12), the image processing apparatus also comprises a frame forming section (Fig. 4: 11-7) for forming a frame having a size such that the face image pickup area can be embraced in the frame in response to the designation of the face image pickup area; and a face image cutting section (Fig. 4: 11-4) for cutting out an area enclosed in the frame, wherein the recognized face image is cut out in accordance with the size of the face image; Fujimoto also discloses that the method can be applied to ID photography (See col. 4, lines 12-24; col. 12, line 65 – col. 13, line 3) (Col. 1, line 64 – col. 2, line 29; col. 3, line 26 – col. 5, line 23; col. 6, lines 3-53; col. 7, line 24 – col. 8, line 4; col. 8, line 46 – col. 9, line 64; col. 12, line 49 – col. 13, line 3).

Therefore, taking the combined teaching of Belucci in view of Fujimoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to generate the identification image data based on the changed sized person area such that the identification image data includes a cut guidance area within a print area, wherein the cut guidance area is smaller than the print area. The motivation to do so would have been to help the identification photo system to create ID photography without taking a photograph of the single human object as suggested by

Fujimoto (Col. 4, lines 19-23) and to make sure that most of the image area for the ID card is covered by the person's face.

Regarding claim 11, the combined teaching of Nishikawa in view of Belucci and further in view of Fujimoto teaches an apparatus performing the same as in claim 10. Therefore, grounds for rejecting claim 10 apply here.

Regarding claim 12, claim 12 is written as a Markush type claim by using the expression "...to correct at least one of density, color balance, luminance and saturation" (see lines 3-4), meeting one species of a genus family anticipates the claimed subject matter. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

Nishikawa discloses that the automatic correcting device corrects at least one of density, color balance, luminance and saturation of an image of the person (Col. 5, lines 56-65; col. 6, lines 47-66).

Regarding claim 13, Nishikawa discloses that the automatic correcting device comprises: a skin pigmentation area abstracting device (detection point setting unit in fig. 2: 52) configured to abstract a skin pigmentation area from the original image data; a skin pigmentation correction value calculating device (comparator in fig. 2: 58) configured to calculate skin pigmentation correction values according to colors of the skin pigmentation area abstracted by said skin pigmentation area abstracting device and a predetermined skin pigmentation correction target value (stored in standard color memory in fig. 2: 56); and a color correcting device (look-up table in fig. 2: 60)

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configured to correct the colors of the skin pigmentation area according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device (the look-up table is used to correct the colors based on the result of the comparator) (Col. 3, line 66 – col. 4, line 13; col. 5, line 66 – col. 6, line 7).

Regarding claim 14, the combined teaching of Nishikawa in view of Belucci and further in view of Fujimoto as applied to claim 10 teaches a head position detecting device (See Belucci, col. 5, lines 15-49; col. 4, lines 8-19 and Fujimoto, fig. 4, item 11-1, col. 1, line 64 – col. 2, line 29; col. 3, line 26 – col. 5, line 23; col. 6, lines 3-53; col. 7, line 24 – col. 8, line 4; col. 8, line 46 – col. 9, line 64; col. 12, line 49 – col. 13, line 3) configured to detect a head position of the person in the original image data; and a cut guidance generating device (Fujimoto, fig. 4, item 11-4) configured to generate a cut guidance in the print area based on the head position detected by the a head position detecting device. Therefore, grounds for rejecting claim 10 apply here.

Regarding claim 15, claim 15 is written as a Markush type claim by using the expression "... configured to outline the cut guidance area by at least one of a solid line, a broken line, marks at corners" (see line 3), meeting one species of a genus family anticipates the claimed subject matter. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

The combined teaching of Nishikawa in view of Belucci and further in view of Fujimoto as applied to claim 10 teaches that the cut guidance generating device is

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configured for outlining the cut guidance area by at least one of: a solid line, a broken line, marks at corners, and differentiating colors between the cut guidance area and a remainder of the printer area (See Fujimoto figs. 8, 9, 15, 16 and 17; col. 1, line 64 – col. 2, line 29; col. 3, line 26 – col. 5, line 23; col. 6, lines 3-53; col. 7, line 24 – col. 8, line 4; col. 8, line 46 – col. 9, line 64; col. 12, line 49 – col. 13, line 3). Grounds for rejecting claims 10 and 14 apply here.

Regarding claim 22, the combined teaching of Nishikawa in view of Belucci and further in view of Fujimoto as applied to claim 10 teaches that the abstracting device is to determine the person area as being an area of the image data other than the background area (Belucci teaches determining the person area by teaching determining the background area to be removed; col. 4, lines 8-19 and col. 5, lines 15-36).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945 in view of Belucci, Patent 5,913,542 B1 and further in view of O'Brill, Patent 5,937,081.

Regarding claim 7, the combined teaching of Nishikawa in view of Belucci fails to teach a cloth area-abstracting device that abstracts a cloth area from the image; and a cloth-changing device that changes image data of the cloth area to image data of predetermined cloth.

However, O'Brill teaches an image composition system wherein a camera takes an image of a person (Fig. 1: 12) and the composition system separates the image of the person's head from the body and the background (See flow chart in fig. 6) so as to change the person's clothes (i.e. shirt and pants) according to the body type of said person (Col. 5, line 49 – col. 6, line 47).

Therefore, taking the combined teaching of Nishikawa in view of Belucci and further in view of O'Brill as a whole, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to incorporate in the identification photo system with a cloth changing system to abstract the part of the body related to the cloth's area or the body form the person so as to change the clothes of the person to predetermined clothes, with the motivation of avoiding having to require a person to have a specific type of clothes to be photograph with the system, facilitating the system to combine the subject with different accessory items as suggested by O'Brill (Col. 1, lines 56-61).

10. Claims 17, 18, 20, 21 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945 in view of Belucci, Patent 5,913,542 B1 and further in view of Blank, US Patent 5,345,313.

Regarding claim 17, the combined teaching of Nishikawa in view of Belucci fails to teach that the automatic correcting device is configured to compare a plurality of areas of the image data with a reference background area and configured to determine each of the plurality of areas to be a part of the background area based on the comparison.

However, Blank teaches a method of detecting the background of an image, wherein the image of a person (Fig. 1: 22) is taken using a reference background (Fig. 1: 24) of a predetermined pattern and color, said background is stored in the system (Fig. 1: 10), wherein a processor (transputer shown in fig. 3: 44) compares the pixels of the image starting from the gamma of the upper left pixel with the gamma of the next pixel in the top row of the video image (Fig. 5A: 54) and so on (See fig. 4) in order to

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determine whether the pixel belongs to the background or to the person area (Col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

Therefore, taking the combined teaching of Nishikawa in view of Belucci and further in view of Blank as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by comparing a plurality of areas of the image data with a reference background area and configured to determine each of the plurality of areas to be a part of the background area based on the comparison. The motivation to do so would have been to properly separate the background areas from the person's area as suggested by Blank (Col. 2, lines 36-46).

Regarding claim 18, limitations can be found in claim 17.

Regarding claim 20, the combined teaching of Nishikawa in view of Belucci fails to teach that the step of detecting the background area comprises comparing a plurality of areas of the image data with a reference background area; and determining each of the plurality of areas to be a part of the background area based on the comparison.

However, Blank teaches a method of detecting the background of an image, wherein the image of a person (Fig. 1: 22) is taken using a reference background (Fig. 1: 24) of a predetermined pattern and color, said background is stored in the system (Fig. 1: 10), wherein a processor (transputer shown in fig. 3: 44) compares the pixels of the image starting from the gamma of the upper left pixel with the gamma of the next pixel in the top row of the video image (Fig. 5A: 54) and so on (See fig. 4) in order to determine whether the pixel belongs to the background or to the person area (Col. 6,

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lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

Therefore, taking the combined teaching of Nishikawa in view of Belucci and further in view of Blank as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system detecting the background area comprises comparing a plurality of areas of the image data with a reference background area; and determining each of the plurality of areas to be a part of the background area based on the comparison. The motivation to do so would have been to properly separate the background areas from the person's area as suggested by Blank (Col. 2, lines 36-46).

Regarding claim 21, limitations can be found in claim 20.

Regarding claim 35, the combined teaching of Nishikawa in view of Belucci fails to teach that the automatic correcting device is configured to separate the image data into an area such that two adjoining pixels are in the same area if a difference in data between the two adjoining pixels is smaller than a predetermined threshold, calculate a characteristic value of the area, detect the background area based on the characteristic value of the area, and abstract the person area in the image data based on the background area.

However, Blank teaches a method of detecting the background of an image, wherein the image of a person (Fig. 1: 22) is taken using a reference background (Fig. 1: 24) of a predetermined pattern and color, said background is stored in the system (Fig. 1: 10), wherein a processor (transputer shown in fig. 3: 44) compares the pixels of the image starting from the gamma of the upper left pixel with the gamma of the next

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pixel in the top row of the video image (Fig. 5A: 54) and so on (See fig. 4) in order to determine whether the pixel belongs to the background or to the person area. Blank also teaches dividing the image into a plurality of areas (the areas are stored in the system and used to compare the pixel values to classify them as person area or background area; col. 6, lines 21-35; col. 10, lines 20-29 and lines 58-65). Blank also teaches comparing properties of adjoining pixels of the image; and determining that the adjoining pixels belong in the same area if the compared properties of the adjoining pixels are less than predetermined thresholds for each property compared (See Blank, col. 7, line 65 – col. 8, lines 14) (Col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

Therefore, taking the combined teaching of Nishikawa in view of Belucci and further in view of Blank as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by separate the image data into an area such that two adjoining pixels are in the same area if a difference in data between the two adjoining pixels is smaller than a predetermined threshold, calculate a characteristic value of the area, detect the background area based on the characteristic value of the area, and abstract the person area in the image data based on the background area. The motivation to do so would have been to properly separate the background areas from the person's area as suggested by Blank (Col. 2, lines 36-46).

Regarding claim 36, the combined teaching of Nishikawa in view of Belucci and further in view of Blank as applied to claim 35 teaches that the automatic correcting device is configured to detect the area as the background area if a difference in the

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characteristic value between a predetermined reference background area and an area adjoining the predetermined reference background area is smaller than a predetermined threshold (See Blank, col. 7, line 65 – col. 8, lines 14).

Regarding claim 37, claim 37 is written as a Markush type claim by using the expression "...the predetermined reference background area includes at least one corner area of the image data or an area out of an oval that is smaller than the image with its center at a center of the image data." (see lines 2-4), meeting one species of a genus family anticipates the claimed subject matter. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

The combined teaching of Nishikawa in view of Belucci and further in view of Blank as applied to claim 35 teaches that the predetermined reference background area includes one corner area of the image data (See Blank, col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

11. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945 and Belucci, Patent 5,913,542 B1 in view of Fujimoto, US Patent 6,035,074 and further in view of Blank, US Patent 5,345,313.

Regarding claim 23, the combined teaching of Nishikawa in view of Belucci and further in view of Fujimoto fails to teach that the abstracting device is configured to determine the background area based a comparison of a plurality of areas of the image data with a reference background area.

However, Blank teaches a method of detecting the background of an image, wherein the image of a person (Fig. 1: 22) is taken using a reference background (Fig. 1: 24) of a predetermined pattern and color, said background is stored in the system (Fig. 1: 10), wherein a processor (transputer shown in fig. 3: 44) compares the pixels of the image starting from the gamma of the upper left pixel with the gamma of the next pixel in the top row of the video image (Fig. 5A: 54) and so on (See fig. 4) in order to determine whether the pixel belongs to the background or to the person area (Col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

Therefore, taking the combined teaching of Nishikawa and Belucci in view of Fujimoto and further in view of Blank as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system detecting the background area comprises comparing a plurality of areas of the image data with a reference background area; and determining each of the plurality of areas to be a part of the background area based on the comparison. The motivation to do so would have been to properly separate the background areas from the person's area as suggested by Blank (Col. 2, lines 36-46).

Regarding claim 24, limitations can be found in claim 23.

12. Claims 26-28 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1 in view of Blank, US Patent 5,345,313.

Regarding claim 26, claim 26 is written as a Markush type claim by using the expression "...based on any or more of a comparison of the each area with a reference

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background area, a size of the each area, or an average coordinate of the pixels of the each area" (see lines 5-8), meeting one species of a genus family anticipates the claimed subject matter. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

Belucci fails to teach separating the image into a plurality of areas; and determining whether or not the each area of the plurality of areas belongs in the background area based on any one or more of a comparison of the each area with a reference background area, a size of the each area, or an average coordinate of the pixels of the each area.

However, Blank teaches a method of detecting the background of an image, wherein the image of a person (Fig. 1: 22) is taken using a reference background (Fig. 1: 24) of a predetermined pattern and color, said background is stored in the system (Fig. 1: 10), wherein a processor (transputer shown in fig. 3: 44) compares the pixels of the image starting from the gamma of the upper left pixel with the gamma of the next pixel in the top row of the video image (Fig. 5A: 54) and so on (See fig. 4) in order to determine whether the pixel belongs to the background or to the person area. Blank also teaches dividing the image into a plurality of areas (the areas are stored in the system and used to compare the pixel values to classify them as person area or background area; col. 6, lines 21-35; col. 10, lines 20-29 and lines 58-65) (Col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

Therefore, taking the combined teaching of Belucci in view of Blank as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by separating the image into a plurality of areas; and determining whether or not each area of the plurality of areas belongs in the background area based on a comparison of each area with a reference background area, a size of each area, or an average coordinate of the pixels of each area. The motivation to do so would have been to properly separate the background areas from the person's area as suggested by Blank (Col. 2, lines 36-46).

Regarding claim 27, the combined teaching of Belucci in view of Blank as applied to claim 26 teaches comparing properties of adjoining pixels of the image; and determining that the adjoining pixels belong in the same area if the compared properties of the adjoining pixels are less than predetermined thresholds for each property compared (See Blank, col. 7, line 65 – col. 8, lines 14).

Regarding claim 28, the combined teaching of Belucci in view of Blank as applied to claim 26 teaches that the properties of the adjoining pixels compared include red (R), green (G) and blue (B) values (Blank teaches that the pixels are compared based on a predetermined color characteristic of the background, wherein said color can be any color (col. 7, line 65 – col. 8, lines 14), by teaching this, Blank teaches that the properties of the adjoining pixels compared include red (R), green (G) and blue (B) values).

Regarding claim 40, Belucci discloses an image processing method in which image data for an identification photo of a person is obtained from image data of the person, the image processing method comprising the steps of; calculating a

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characteristic value of the area (i.e. background and person's area); detecting a background area based on the characteristic value of the area (Belucci determines the background area in order to normalize or erase it; see col. 4, lines 8-19 and col. 5, lines 15-36); and abstracting a person area in the image data based on the background area (Belucci discloses presenting the image of the person only by deleting the background area, by doing this, Belucci discloses abstracting a person area in the image data based on the background area; col. 4, lines 8-19 and col. 5, lines 15-36).

Belucci fails to teach dividing the image data into an area such that two adjoining pixels are in the same area if a difference in data between the two adjoining pixels is smaller than a predetermined threshold.

However, Blank teaches a method of detecting the background of an image, wherein the image of a person (Fig. 1: 22) is taken using a reference background (Fig. 1: 24) of a predetermined pattern and color, said background is stored in the system (Fig. 1: 10), wherein a processor (transputer shown in fig. 3: 44) compares the pixels of the image starting from the gamma of the upper left pixel with the gamma of the next pixel in the top row of the video image (Fig. 5A: 54) and so on (See fig. 4) in order to determine whether the pixel belongs to the background or to the person area. Blank also teaches dividing the image into a plurality of areas (the areas are stored in the system and used to compare the pixel values to classify them as person area or background area; col. 6, lines 21-35; col. 10, lines 20-29 and lines 58-65). Blank also teaches determining that the adjoining pixels belong in the same area if the compared properties of the adjoining pixels are less than predetermined thresholds for each

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property compared (See Blank, col. 7, line 65 – col. 8, lines 14) (Col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

Therefore, taking the combined teaching of Belucci in view of Blank as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by dividing the image data into an area such that two adjoining pixels are in the same area if a difference in data between the two adjoining pixels is smaller than a predetermined threshold. The motivation to do so would have been to properly separate the background areas from the person's area as suggested by Blank (Col. 2, lines 36-46).

Regarding claim 41, limitations can be found in claim 40.

Regarding claim 42, claim 42 is written as a Markush type claim by using the expression "...the predetermined reference background area includes at least one corner area of the image data or an area out of an oval that is smaller than the image with its center at a center of the image data." (see lines 2-4), meeting one species of a genus family anticipates the claimed subject matter. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

The combined teaching of Belucci in view of Blank as applied to claim 40 teaches that the predetermined reference background area includes one corner area of the image data (See Blank, col. 6, lines 21-35 and 56-66; col. 7, lines 43-54 and line 65 – col. 8, line 14; col. 8, line 15 – col. 9, lines 14).

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13. Claims 30, 31, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1 in view of Blank, US Patent 5,345,313 and further in view of Daly, US Patent 6,173,069 B1.

Regarding claim 30, the combined teaching of Belucci in view of Blank fails to teach that the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the size of the each area includes determining that the each area belongs in the background area if the size of the each is greater than a predetermined maximum area or less than a predetermined minimum area.

However, Daly teaches a method of detecting the face of a person in an image, wherein the face area belongs to and circle area with a radius larger than the radius of a circle (See fig. 3: 50) but less than the radius of a larger circle (See fig. 3: 52) (See col. 7, line 37 – col. 8, line 15; col. 8, line 16 – col. 9, line 45) (By teaching this Daly teaches that the areas outside the circle 52 and inside the circle 50 are considered background).

Therefore, taking the combined teaching of Belucci in view of Blank and further in view of Daly as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by determining whether or not the each area of the plurality of areas belongs in the background area based on the size of the each area includes determining that the each area belongs in the background area if the size of the each is greater than a predetermined maximum area or less than a predetermined minimum area. The motivation to do so would have been to accelerate the process of detecting facial and

background areas since said facial and background areas are identified using larger regions as opposed to a pixel-by-pixel comparison.

Regarding claim 31, the combined teaching of Belucci in view of Blank and further in view of Daly as applied to claim 30 teaches that the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the average coordinate of the pixels of the each area includes determining that the each area belongs in the background area if the average coordinate of the pixels of the each area is outside of a predetermined oval or circle with the center of the oval or the circle at the center of the image (See Daly, circle in the center of the image as shown in fig. 3 and oval in the center of the image as shown in fig. 7) (See Daly, col. 7, line 37 – col. 8, line 15; col. 8, line 16 – col. 9, line 45).

Regarding claim 43, the combined teaching of Belucci in view of Blank fails to teach that the step of detecting the background area includes determining that the area is the background area if a number of pixels in the area is larger than a first predetermined threshold or smaller than a second predetermined threshold.

However, Daly teaches a method of detecting the face of a person in an image, wherein the face area belongs to and circle area (See circle areas 50 and 52 with the center at the center of the image) with a radius larger than the radius of a circle (See fig. 3: 50) but less than the radius of a larger circle (See fig. 3: 52) (See col. 7, line 37 – col. 8, line 15; col. 8, line 16 – col. 9, line 45) (By teaching this Daly teaches that the areas outside the circle 52 and inside the circle 50 are considered background). Although, Daly teaches measuring the areas with a circle radius and not by number of pixels, it is understood that by using a circle radius it is also defining an area composed of a

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predetermined amount of pixels to be compared with the area to be tested to determine if is a background's area or a person's area.

Therefore, taking the combined teaching of Belucci in view of Blank and further in view of Daly as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by detecting the area as the background area if a number of pixels in the area is larger than a first predetermined threshold or smaller than a second predetermined threshold. The motivation to do so would have been to accelerate the process of detecting facial and background areas since said facial and background areas are identified using larger regions as opposed to a pixel-by-pixel comparison.

Regarding claim 44, limitations can be found in claim 43.

14. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1 in view of O'Brill, Patent 5,937,081.

Regarding claim 32, Belucci fails to teach abstracting a facial area based on the person area.

However, O'Brill teaches an image composition system wherein a camera takes an image of a person (Fig. 1: 12) and the composition system separates the image of the person's head from the body and the background (See flow chart in fig. 6) so as to change the person's clothes (i.e. shirt and pants) according to the body type of said person (Col. 5, line 49 – col. 6, line 47).

Therefore, taking the combined teaching of Belucci in view of O'Brill as a whole, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the identification photo system by abstracting a facial area based

on the person area. The motivation to do so would have been to avoid having to require a person to have a specific type of clothes to be photograph with the system, facilitating the system to combine the subject with different accessory items as suggested by O'Brill (Col. 1, lines 56-61).

15. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1 in view of O'Brill, Patent 5,937,081 and further in view of Fujimoto, US Patent 6,035,074.

Regarding claim 33, the combined teaching of Belucci in view of O'Brill fails to teach that the step of abstracting the facial area based on the person area comprises determining that an area of the person area is the facial area when a color of the of the area is determined to be a skin pigmentation color.

However, Fujimoto discloses an image processing apparatus in communication with a camera or a scanner (Col. 2, lines 59-65; col. 6, lines 3-9; col. 7, lines 24-31), said camera comprising an external input controlling section (Fig. 3: 15) for the camera or scanner, wherein said image processing apparatus extract the face of a subject in the image using face recognition by comparing the colors in the whole input image (See figs. 6-10) with skin colors stored in a RAM (Fig. 3: 11) or ROM (Fig. 3: 12), the image processing apparatus also comprises a frame forming section (Fig. 4: 11-7) for forming a frame having a size such that the face image pickup area can be embraced in the frame in response to the designation of the face image pickup area; and a face image cutting section (Fig. 4: 11-4) for cutting out an area enclosed in the frame, wherein the recognized face image is cut out in accordance with the size of the face image; Fujimoto also discloses that the method can be applied to ID photography (See col. 4, lines 12-

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24; col. 12, line 65 – col. 13, line 3) (Col. 1, line 64 – col. 2, line 29; col. 3, line 26 – col. 5, line 23; col. 6, lines 3-53; col. 7, line 24 – col. 8, line 4; col. 8, line 46 – col. 9, line 64; col. 12, line 49 – col. 13, line 3).

Therefore, taking the combined teaching of Belucci in view of O'Brill and further in view of Fujimoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by determining that an area of the person area is the facial area when a color of the of the area is determined to be a skin pigmentation color. The motivation to do so would have been to help the identification photo system to create ID photography without taking a photograph of the single human object as suggested by Fujimoto (Col. 4, lines 19-23).

16. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belucci, Patent 5,913,542 B1 and O'Brill, Patent 5,937,081 in view of Fujimoto, US Patent 6,035,074 and further in view of Nishikawa, Patent 5,296,945.

Regarding claim 34, the combined teaching of Belucci in view of O'Brill and further in view of Fujimoto fails to teach correcting the facial area to a target skin pigmentation color.

However, Nishikawa discloses an identification photo system (Fig. 2) that obtains image data for an identification photo of a person (Fig. 2: 22) from image data of the person, said identification photo system comprising an automatic correcting device (Fig. 2) that automatically corrects the image data of the person (Col. 3, line 66 – col. 4, line 13; col. 6, lines 40-56; col. 9, lines 42-65), wherein the automatic correcting device corrects at least one of density, color balance, luminance and saturation of an image of the person (Col. 5, lines 56-65; col. 6, lines 47-66). Nishikawa also teaches that the

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automatic correcting device comprises: a skin pigmentation area abstracting device (detection point setting unit in fig. 2: 52) that abstracts a skin pigmentation area from the image; a skin pigmentation correction value calculating device (comparator in fig. 2: 58) that calculates skin pigmentation correction values according to colors of the skin pigmentation area abstracted by said skin pigmentation area abstracting device and a predetermined skin pigmentation correction target value (stored in standard color memory in fig. 2: 56); and a color correcting device (look-up table in fig. 2: 60) that corrects the colors of the skin pigmentation area according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device (the look-up table is used to correct the colors based on the result of the comparator) (Col. 3, line 66 – col. 4, line 13; col. 5, line 66 – col. 6, line 7).

Therefore, taking the combined teaching of Belucci and O'Brill in view of Fujimoto and further in view of Nishikawa as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by correcting the facial area to a target skin pigmentation color. The motivation to do so would have been to provide a video ID photo printing apparatus and a complexion converting apparatus capable of stabilizing picture quality on a print or a monitor without being influenced by an illumination light source, controls of control means of a video image pickup apparatus, and printing characteristics of a video printer and without requiring very difficult controlling operations of video image pickup equipment as suggested by Nishikawa (Col. 2, lines 5-13).

17. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Patent 5,296,945 and Belucci, Patent 5,913,542 B1 in view of Blank, US Patent 5,345,313 and further in view of Daly, US Patent 6,173,069 B1.

Regarding claim 38, the combined teaching of Nishikawa in view of Belucci and further in view of Blank fails to teach that the automatic correcting device is configured to detect the area as the background area if a number of pixels in the area is larger than a first predetermined threshold or smaller than a second predetermined threshold.

However, Daly teaches a method of detecting the face of a person in an image, wherein the face area belongs to and circle area (See circle areas 50 and 52 with the center at the center of the image) with a radius larger than the radius of a circle (See fig. 3: 50) but less than the radius of a larger circle (See fig. 3: 52) (See col. 7, line 37 – col. 8, line 15; col. 8, line 16 – col. 9, line 45) (By teaching this Daly teaches that the areas outside the circle 52 and inside the circle 50 are considered background). Although, Daly teaches measuring the areas with a circle radius and not by number of pixels, it is understood that by using a circle radius it is also defining an area composed of a predetermined amount of pixels to be compared with the area to be tested to determine if is a background's area or a person's area.

Therefore, taking the combined teaching of Belucci in view of Blank and further in view of Daly as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the identification photo system by detecting the area as the background area if a number of pixels in the area is larger than a first predetermined threshold or smaller than a second predetermined threshold. The motivation to do so would have been to accelerate the process of detecting facial and

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background areas since said facial and background areas are identified using larger regions as opposed to a pixel-by-pixel comparison.

Regarding claim 39, limitations can be found in claim 38.

Allowable Subject Matter

18. **Claim 29** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 29, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the reference background area includes at least one corner of the image and wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the comparison of the each area with the reference background area includes determining that the each area belongs in the background area if a difference between an average luminance value of the pixels of the each area and an average luminance value of the reference background area is within a predetermined luminance difference threshold and a difference between an average chromaticity value of the pixels of the each area and an average chromaticity value of the reference background area is within a predetermined chromaticity difference threshold, or a difference between an average red (R) value of the pixels of the each of the reference background area is within a area and an average R value predetermined R difference threshold, a difference between an

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average green (G) value of the pixels of the each area and an average G value of the reference background area is within a predetermined G difference threshold and a difference between an average blue (B) value of the pixels of the each area and an average B value of the reference background area is within a predetermined B difference threshold including all of the limitations of claims 25 and 26.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson D. Hernandez
Examiner
Art Unit 2612

NDHH
March 4, 2006



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SUPERVISORY PATENT EXAMINER